C·R·E·S REPORT

The Center for Reproduction of Endangered Species (CRES) is operated by the Zoological Society of San Diego

SUMMER • 1991

Condor Program Takes Off!

The Andean condor has been a symbol of Colombia's independence and strength from the time of the Quechua Indians' struggle against the Spanish conquistadores. But with a dwindling condor population of fewer than 50 animals, zoos of the United States are joined in a rescue effort to send young Andean condors to Colombia to replenish their numbers in the wild.

Over the past two years, 14 young Andean condors, hatched and reared at the San Diego Wild Animal Park and the Los Angeles Zoo, have been translocated to three protected areas in the Colombian Andes. San Diego's efforts in this program are being led by Alan Lieberman, the San Diego Zoo's Curator of Birds. With the generous cooperation of INDERENA (Colombia Department of the Interior), FES (a non-governmental conservation organization), and the Chiles Indian community, these birds have been flown, trucked, and hand-carried to their new mountaintop homes.

At less than one year of age, the birds were acclimated slowly to their misty surroundings. They were fitted with radio transmitters and allowed 2 to 4 weeks in a net-covered shelter to adjust to the sights, sounds, and smells of their native habitat. After weeks of observing the birds, the Colombian biologists removed the netting and the birds took their first practice flights. Within days, the condors were testing their wings for longer and longer periods, until they were able to stay aloft for hours at a time, covering many kilometers daily.

For the past two years the 14 condors have been followed closely by the Colombian conservation agencies responsible for the feeding and long-term care of this new flock. But even more exciting has been the emotional response of the Colombian public as they follow the daily updates of their national bird in the press. The conservation consciousness of an entire country has been stirred and continues to grow. From the beginnings of just 14 young birds, numerous grassroots conservation clubs, societies and groups have formed to pursue the environmental agenda of an entire country.

Presently, an additional 12 Andean condors are being prepared for relocation to these sites over the next two years, and there are plans to develop a fourth release site in 1993.

As we anticipate the reality of releasing California condors in their native habitat, we can take additional satisfaction in the knowledge that we have accomplished an equally remarkable recovery of its southern cousin in Colombia. Over the next few years we will be able to better evaluate the true impact of this program by watching the success of other Colombian conservation efforts which began with the release of the first young condor. We wish them the best. ■

Reproductive Physiology

About 500,000 years ago, the white rhinoceros diverged into two distinct subspecies: the southern white rhinoceros, which is considered threatened, and the northern white rhinoceros, which is severely endangered. Of the 41 northern white rhinos in existence, two males and two females—an astounding 10 percent of the remaining population—reside at the San Diego Wild Animal Park.

Unfortunately, the northern white rhinos at the Wild Animal Park have not reproduced, and neither female is cycling normally. CRES reproductive physiologist Dr. Barbara Durrant was called in to investigate. According to Dr. Durrant, there is little information available on rhinoceros estrous cycles. However, domestic horses, a close relative of the rhino, have been well studied. Horses that have ceased cycling have been treated successfully with the hormone prostaglandin.

Because the proper dosage of prostaglandin for rhinos is unknown, Dr. Durrant and other caregivers were reluctant to attempt treatment on the northern white rhino females. So a southern white rhinoceros with a similar condition was selected as a model. To date, this animal has received three prostaglandin treatments with no side effects and no results. If prostaglandin therapy continues to be ineffective, there are other treatments to investigate. For instance, a pump which administers hormones, such as progesterone or GnRH (gonadotropin releasing hormone), may be used.

When a successful treatment is determined for the southern white rhinoceros, the northern white rhino females will be treated. Said Dr. Durrant, "When you consider the possibility of saving this species from extinction, we need to examine every option available." ■

Rhino Conference

The International Conference on Rhinoceros Biology and Conservation was held recently in San Diego. Sponsored by the **Zoological Society of San Diego, Educational Foundation of America, Rhino Rescue USA,** and many additional supporters, this conference represented a tangible effort towards the worldwide conservation of all five species of rhinoceros. As no nation holds the entire gene pool of any single species or subspecies of rhinoceros, it is imperative to coordinate the efforts of individual nations as well as the efforts on behalf of both captive and wild populations of all rhinoceroses.

Keynote speakers Dr. Esmond Bradley Martin, Dr. Mark R. Stanley Price and Mr. Michael Werikhe joined other notables in urging international cooperation for the sake of the remaining rhinoceros. Experts from over 20 countries attended.

For the first time, many of the world's rhinoceros experts were brought together for rhinoceros conservation. A wealth of new information was presented on management, nutrition, genetics, diseases, and other pertinent topics. All participants returned to their countries with updated action plans and rhinoceros status reports, better armed to meet the challenge of saving the rhino from extinction. ■

Inside CRES

● Genetics

Cytogenetics—The Frozen Zoo now holds cells from more than 2,000 individual animals representing more than 340 species and subspecies. A $10,000 grant from the **Lee Romney Foundation, Inc.** is enabling CRES cytogenetics specialist Arlene Kumamoto to investigate the chromosomes of the Southwest African, or Damara, dik-dik in Namibia, Africa.

Molecular genetics—Dr. Petr Spala, a visiting scholar from Czechoslovakia, is studying the molecular evolution of zebras. Funded by the **Pew Charitable Trusts** and the **John and Beverly Stauffer Foundation,** the project is devised to develop an approach to successful management and conservation planning for zebra populations. ■

Endocrinology

CRES endocrinologist Dr. Valentine Lance has been selected as a principal investigator in collaboration with the Desert Tortoise Conservation Center in Clark County, Nevada. Dr. Lance will study the male and female reproductive cycles, the effects of stress, and (in collaboration with Dr. Allison Alberts) the males' chin gland secretion, which triggers an aggressive reaction in other male tortoises. ■

Comparative Physiology

Dr. John Phillips continues to study the reproductive biology of the savannah monitor lizard in Etosha National Park, Namibia, Africa. Results of his field investigation should lead to the cause of reproductive failure in captive females. Dr. Phillips expects to complete his 18-month study in July, 1991. ■

Behavior

The search continues for an appropriate release site in India for the troop of lion-tailed macaques, currently housed at the Wild Animal Park. According to CRES behaviorist Dr. Donald Lindburg, the macaques are nearly ready for release. The troop has demonstrated an ability to respond to potentially life-threatening situations, and adapt to new environments. ■

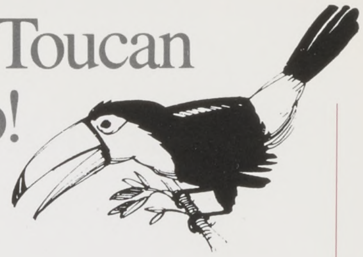
Infectious Diseases

Malignant catarrhal fever (MCF), a fatal disease caused by a herpesvirus, may occur in virtually any species of hoofed stock. Ongoing research includes: gaining a more complete understanding of the structure of the viral DNA; identification of the viral proteins most easily detected by the host animal's immune system; and development of a more accurate method to test for presence of the virus in all potentially affected species. ■

Virology

CRES virologist Dr. Michael Worley is involved in a wide variety of projects involving the study of viral DNA. Using a process called polymerase chain reaction (PCR), he is able to amplify viral DNA for comparison between known and unknown genome samples. This technique is useful in discovering the presence or absence of a particular virus in a host animal, and in comparing DNA structure between viruses. ■

You Toucan Help!



Cans for Critters is an educational program involving students from San Diego County in recycling aluminum cans. Proceeds are donated to CRES to support endangered species research. The Zoo staff offers students a variety of fun and educational incentives for their can-collecting efforts, such as a recognition party and fun prizes. Former San Diego Chargers place-kicker Rolf Benirschke started the program 10 years ago. Cans for Critters has expanded to include schools throughout the county, and this year will expand again. Cans for Critters was presented the 1990 Recycling Merit Award by the California Recycling Advisory Committee and the state's Division of Recycling. Since its inception, students participating in the program have contributed more than $100,000 to CRES. For more information please contact Arlene Wyrick at (619) 231-1515, extension 4597. ■

I am interested in learning more about giving opportunities for the Center for Reproduction of Endangered Species (CRES). Please provide information on:

☐ Adopt-An-Animal Program
☐ Making a cash donation
☐ Recognizing a special person through an honorarium or memorial gift
☐ Including CRES in my will
☐ Making non-cash gifts
☐ Cans for Critters program

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Please return to:

Center for Reproduction of Endangered Species
Zoological Society of San Diego • *Attn: Amy Parrott*
Post Office Box 551 • San Diego, CA 92112
or call (619) 231-1515, extension 4249

A Gift for Endangered Species

Designer of the White House's china for the past ten years, Fitz and Floyd is known for its unique color approach, pattern coordination, and multi-use designs. This Dallas-based manufacturer of fine china and ceramic gifts will donate five percent of the 1991 and 1992 proceeds from their Omnibus "Ecology Series" to CRES. The first donation of $5,000 was received in January, 1991.

Ken Marvel, Fitz and Floyd's Chairman and CEO, believes "business corporations should take a leadership role in environmental and conservation programs" and has challenged other companies to make similar commitments.

The Ecology Series of tableware and decorative gifts depicts animal wildlife. These and other Fitz and Floyd products are available at better department and specialty stores throughout the United States and Canada (including San Diego Zoo and Wild Animal Park gift shops). ■

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Joan Embery, Goodwill Ambassador of the Zoological Society, with Fitz and Floyd Chairman, Ken Marvel.

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Development Department
Post Office Box 551
San Diego, California 92112

Non-profit Organization
U.S. Postage
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San Diego, California
Permit Number 410